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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,910	06/27/2003	Joel William Hoehn	I69.12-0591	8146
164	7590	04/24/2006	EXAMINER	
KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002			MCDONALD, RODNEY GLENN	
			ART UNIT	PAPER NUMBER
			1753	

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,910

Applicant(s)

HOEHN ET AL.

Examiner

Rodney G. McDonald

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 is/are allowed.
- 6) ☒ Claim(s) 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Reopening of Prosecution

Prosecution is reopened in view of the newly discovered reference(s) to Tsukamoto et al. (U.S. Pat. 6,174,736). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsukamoto et al. (U.S. Pat. 6,174,736).

Regarding claim 19, Tsukamoto et al. teach tunnel magnetic heads formed by a particular process. (Column 9 lines 51-55) The process for fabricating the magnetic heads includes mechanically polishing end surfaces of the first ferromagnetic layer, the tunnel barrier layer, and the second ferromagnetic layer, and etching the surface of the first ferromagnetic layer, the tunnel barrier layer, and the second ferromagnetic layer. (Column 2 lines 60-68) The purpose of the etching is to remove plastically deformed layers caused by the mechanically polishing step. (Column 2 lines 32-36; This is the same reason Applicants ion mill and replenish.) This rejection is based on the fact that the product produced by Applicant's claims and Tsukamoto et al. would be identical products. (See further discussion in the arguments section below)

Allowable Subject Matter

Claims 1-18 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-8 are allowable over the prior art because the prior art of record does not teach ion etching the air bearing surface to cause deficiencies of a constituent of the tunnel barrier in a portion of the tunnel barrier adjacent the air bearing surface; and replenishing at least a portion of the constituent in the portion of the tunnel barrier adjacent the air bearing surface.

Claims 9-18 are allowable over the prior art because the prior art of record does not teach ion etching the air bearing surface to cause a deficiency of a constituent of the tunnel barrier in a portion of the tunnel barrier adjacent the air bearing surface and replenishing the deficiency of the constituent in the portion of the tunnel barrier adjacent the air bearing surface.

The closest prior art of record to Tsukamoto et al. (U.S. Pat. 6,174,736) suggests ion etching but does not suggest replenishing the deficiency of the constituent in the tunnel barrier adjacent the air bearing surface. Tsukamoto et al. is silent on this replenishment or even if such removal of the constituent occurs. Nevertheless the product of Applicants and Tsukamoto et al. would be identical in structure regardless of the process involved since both products would be structurally the same.

Response to Arguments

Applicant's arguments filed 4-5-06 have been fully considered.

The previous rejections made in the last office action have been withdrawn in light of Applicant's arguments made in the Request for Reconsideration of 4-5-06. The remaining issue is whether the product claim would be anticipated by Tsukamoto et al. It is argued that the product claim would be anticipated because the magnetic heads suggested by Tsukamoto et al. would be the same as the magnetic head claimed by Applicant. In both instances it is desired is to remove a plastically deformed layer from the head by etching to produce a magnetic head. Tsukamoto et al. is silent on removal and replenishment of a constituent and therefore it is believed that this step is not occurring. However structurally the final products of Applicant and Tsukamoto et al. would be identical because the layers in the final product would be identical at the end of both Applicant's process and Tsukamoto et al.'s process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rodney G. McDonald
Primary Examiner
Art Unit 1753

RM
April 20, 2006